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7. The gas turbine engine according to claim 6 wherein said secondary SMA actuator is heated and deformed alternately with said SMA actuator of said actuating mechanism.

8. The gas turbine engine according to claim 1 further comprising a control system to heat said SMA actuator. 5

9. The gas turbine engine according to claim 1 further comprising a mechanical stop to maintain said SMA actuator in said deformed state.

10. The gas turbine engine according to claim 1 wherein said SMA actuator comprises an array formed from a plurality of SMA wires. 10

11. The gas turbine engine according to claim 1 wherein said SMA actuator comprises an array formed from a plurality of SMA strands. 15

12. The gas turbine engine according to claim 11 wherein each of said SMA strands is formed from a plurality of SMA wires.

13. The gas turbine engine according to claim 1 wherein said SMA actuator is formed from a plurality of SMA strands. 20

14. The gas turbine engine according to claim 1 wherein said SMA actuator is a rigid SMA member.

15. The gas turbine engine according to claim 1 wherein said SMA actuator comprises a SMA strand looped into an array. 25

16. The gas turbine engine according to claim 1 wherein said SMA actuator includes a plurality of SMA actuators.

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17. A gas turbine engine situated about a center axis and enclosed in a nacelle, said gas turbine engine having a variable area nozzle, said gas turbine engine comprising:

a plurality of flaps each of said flaps having a flap body having a flap tip defining a diameter of said variable area nozzle, said plurality of flaps having an open position corresponding to an enlarged diameter of said variable area nozzle and a closed position corresponding to a reduced diameter of said variable area nozzle;

a plurality of actuating mechanisms for driving said plurality of flaps into said open position and said closed position;

a primary SMA actuator for driving said plurality of actuating mechanisms, said primary SMA actuator being alternately deformed in its martensitic state and heated to its austenitic state to actuate said actuating mechanism; and

a secondary SMA actuator for deforming said primary SMA actuator to drive said plurality of flaps into said open position and said closed position.

18. The gas turbine engine according to claim 17 wherein said secondary SMA actuator is heated and deformed alternately with said primary SMA actuator.

19. The gas turbine engine according to claim 17 wherein said primary SMA actuator and said secondary SMA actuator are alternately heated and cooled.

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